

hailstorms in Connecticut and New Hampshire. At South Weathersfield, Conn., a severe hailstorm occurred about 3 p. m. Some damage by hail was reported at Littleton, N. H. A boy was killed by lightning near Gloversville, N. Y. A heavy thunder and rain storm occurred at Jupiter, Fla., in

the afternoon. During a thunderstorm in the evening at Little Rock, Ark., the wind reached a velocity of 54 miles per hour. A severe thunder, rain, and hail storm visited Concordia, Kans., in the morning. Thunderstorms were reported in Missouri and South Dakota.

INLAND NAVIGATION.

FLOODS.

The month opened with the Mississippi River above the danger-line from Helena, Ark., southward. At Vicksburg, Miss., the stage of water, 46.7 feet, was the highest noted for the month. At Nashville, Tenn., the Tennessee River rose rapidly and reached 19.4 feet on the gauge, a rise of 9.1 feet in 24 hours. At Cairo, Ill., the Ohio River was rising slowly and passed the danger-line by the morning of the 2d. The Ohio River continued to rise at Cairo until the 6th, when a stage of 43.3 feet, 3.3 feet above the danger-line was reached. The Mississippi River passed the danger-line at Memphis, Tenn., on the 7th, and the maximum stage of the month at that point, 33.5 feet, was noted from the 11th to the 14th. On the 13th a small break occurred in the Magnolia Mound levee near Baton Rouge, La.; the break was closed by the night of the 13th. On the 16th a crevasse was reported near Napoleonville, Assumption Parish, La. The evening of the 18th a break occurred in the levee on the Reserve plantation at Saint Peters, La. The night of the 18th a break occurred in the levee at Convent, La. By the 22d the Reserve crevasse had been closed. The evening of the 23d a serious crevasse occurred in front of the Rescue plantation on the left bank of the river about one mile above Ascension Parish. The Rescue crevasse increased in width during the 24th and 25th, and caused a gradual fall in the river below that point. At New Orleans, La., the water, which reached a stage of 17.9 feet the evening of the 23d and continued nearly stationary until noon of the 24th, fell one foot by the close of the month.

STAGE OF WATER IN RIVERS.

The following table shows the danger-points at the various river stations; the highest and lowest stages for the month, with the dates of occurrence; and the monthly ranges:

| Heights of rivers above low-water mark, June, 1893. | | | | | | |
|---|------------------------|----------------|---------|---------------|--------|----------------|
| Stations. | Danger-point on gauge. | Highest water. | | Lowest water. | | Monthly range. |
| | | Height. | Date. | Height. | Date. | |
| <i>Red River.</i> | <i>Feet.</i> | <i>Feet.</i> | | <i>Feet.</i> | | <i>Feet.</i> |
| Shreveport, La. | 29.2 | 21.8 | 16-17 | 14.8 | 30 | 7.0 |
| <i>Arkansas River.</i> | | | | | | |
| Fort Smith, Ark. | 22.0 | 16.8 | 2 | 4.0 | 27 | 12.8 |
| Little Rock, Ark. | 23.0 | 21.5 | 3 | 7.3 | 30 | 14.2 |
| <i>Missouri River.</i> | | | | | | |
| Fort Buford, N. Dak. | 25.0 | 16.3 | 17 | 10.8 | 1-3 | 5.5 |
| Bismarck, N. Dak. | 75.0 | 11.6 | 18 | 5.5 | 4.5 | 6.1 |
| Pierre, S. Dak. | 13.0 | 7.8 | 21, 26 | 0.4 | 12, 13 | 7.4 |
| Sioux City, Iowa. | 18.7 | 14.1 | 22 | 9.7 | 12, 13 | 4.4 |
| Omaha, Nebr. | 18.0 | 12.9 | 23, 24 | 8.9 | 14, 15 | 4.0 |
| Kansas City, Mo. | 21.0 | 17.2 | 26 | 12.2 | 19 | 5.0 |
| <i>Mississippi River.</i> | | | | | | |
| Saint Paul, Minn. | 14.0 | 9.5 | 1 | 4.4 | 30 | 5.1 |
| La Crosse, Wis. | 10.0 | 10.0 | 1, 2 | 4.6 | 30 | 5.4 |
| Dubuque, Iowa. | 16.0 | 12.9 | 2, 4, 5 | 6.0 | 30 | 8.9 |
| Davenport, Iowa. | 15.0 | 10.4 | 1 | 4.4 | 30 | 6.0 |
| Keokuk, Iowa. | 14.0 | 12.2 | 1 | 5.5 | 30 | 6.7 |
| Hannibal, Mo. | 17.0 | 14.0 | 1 | 7.0 | 30 | 7.0 |
| Saint Louis, Mo. | 30.0 | 26.0 | 4 | 17.6 | 23 | 10.4 |
| Cairo, Ill. | 40.0 | 43.3 | 6 | 21.0 | 26 | 22.3 |
| Memphis, Tenn. | 33.0 | 33.5 | 11-14 | 16.5 | 29 | 17.0 |
| Vicksburg, Miss. | 41.0 | 40.7 | 1 | 42.3 | 30 | 4.4 |
| New Orleans, La. | 13.0 | 17.9 | 24 | 16.0 | 4 | 1.9 |
| <i>Ohio River.</i> | | | | | | |
| Parkersburg, W. Va. | 38.0 | 9.5 | 7 | 4.6 | 18 | 4.9 |
| Cincinnati, Ohio. | 45.0 | 21.0 | 5 | 10.2 | 19 | 10.8 |
| Louisville, Ky. | 24.0 | 10.0 | 7 | 5.4 | 20 | 4.6 |
| <i>Cumberland River.</i> | | | | | | |
| Nashville, Tenn. | 40.0 | 32.0 | 2 | 3.8 | 30 | 28.2 |
| <i>Tennessee River.</i> | | | | | | |
| Chattanooga, Tenn. | 33.0 | 20.7 | 8 | 4.1 | 30 | 16.6 |
| Knoxville, Tenn. | 29.0 | | | | | |
| <i>Monongahela River.</i> | | | | | | |
| Pittsburg, Pa. | 22.0 | 7.1 | 30 | 2.2 | 13 | 4.9 |
| <i>Savannah River.</i> | | | | | | |
| Augusta, Ga. | 32.6 | 13.5 | 8 | 6.5 | 30 | 7.0 |
| <i>Willamette River.</i> | | | | | | |
| Portland, Oregon. | 15.0 | 22.0 | 15 | 18.0 | 29, 30 | 4.0 |
| <i>Susquehanna River.</i> | | | | | | |
| Harrisburg, Pa. | 17.0 | 3.7 | 1, 2 | 1.6 | 22, 23 | 2.1 |
| <i>Alabama River.</i> | | | | | | |
| Montgomery, Ala. | 48.0 | 21.3 | 8 | 4.2 | 26 | 17.1 |
| <i>Jones River.</i> | | | | | | |
| Lynchburg, Va. | 18.0 | 5.5 | 3, 4 | 0.7 | 30 | 4.8 |
| <i>Sacramento River.</i> | | | | | | |
| Red Bluff, Cal. | 22.0 | 4.9 | 1 | 2.3 | 30 | 2.6 |
| Sacramento, Cal. | 25.0 | | | | | |
| <i>Des Moines River.</i> | | | | | | |
| Des Moines, Iowa. | 19.0 | 6.7 | 12 | 4.0 | 30 | 2.7 |

* For 29 days.

ATMOSPHERIC ELECTRICITY.

THUNDERSTORMS.

Description of the more severe thunderstorms reported for the month is given under "Local storms."

Thunderstorms were reported as follows: East of the Rocky Mountains they were reported in the greatest number of states, 33, on the 3d and 21st; in 32 on the 4th; in 31 on the 30th; in 20 to 30 on the 1st, 2d, 5th, 6th, 10th to 17th; 19th, 20th, 22d, and 25th to 29th; and in 10 to 19 on the 7th, 8th, 9th, 18th, 23d, and 24th.

East of the Rocky Mountains thunderstorms were reported on the greatest number of dates, 29, in Florida; on 20 to 28 in Colorado, Georgia, Illinois, Iowa, Kansas, Louisiana, Michigan, Missouri, New York, North Carolina, North Dakota, Ohio, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, and West Virginia; and on 10 to 19 in Alabama, Arkansas, Connecticut, Indiana, Kentucky, Maryland,

Massachusetts, Minnesota, Mississippi, Nebraska, New Hampshire, Vermont, and Wisconsin. The only states in which thunderstorms were reported on less than 10 dates were New Jersey on 8 dates, the District of Columbia and Montana on 7, Oklahoma on 6, Rhode Island on 4, and Delaware on 3.

West of the Rocky Mountains thunderstorms were reported in Arizona on the 7th, 8th, 9th, 18th, 24th, 25th, 26th, and 30th; in California on the 21st; in Idaho on the 22d and 27th; in Nevada on the 12th and 13th; in New Mexico on the 7th, 12th, 17th, 18th, and 25th; in Oregon on the 6th, 11th, 21st, 22d, 24th, and 27th; in Utah on the 13th, 25th, and 26th; in Washington on the 3d, 5th, 6th, 10th, 18th, and 24th; and in Wyoming on the 4th, 5th, 14th, and 26th to 29th. There were no states or territories in which thunderstorms were not reported.

AURORAS.

Auroras were reported as follows: 2d, Glenwood, Nebr.